

Regulatory Glossary for Forestry

July 15, 2002

This glossary was originally developed by the Forestry BMP Subcommittee under the leadership of the Texas Forest Service and Texas Forestry Association in 1996, and is updated on a periodic basis.

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Abandoned Cropland

PC cropland that is not used for the production of an agricultural commodity at least once every 5 years, or for the production of an agricultural commodity in a commonly used rotation with aquaculture, grasses, legumes or pasture production. FR 58:163(G) p.45034. Prior converted (PC) or farmed wetland (FW) is considered abandoned if wetland criteria are met, and (1) the PC or FW has not been planted to an agricultural commodity for 5 successive years; and (2) if was not enrolled in a USDA set-aside or similar program; or (3) the person indicates an intent to abandon.

Abandonment Exemption

The Federal Agricultural Improvement and Reform Act of 1996, Title III. The abandonment provision for lands determined to have been converted prior to December 23, 1985 is eliminated.

Adjacent

Bordering, contiguous, or neighboring. Wetlands separated from other waters of the US by man-made dikes or barriers, natural river berms, beach dunes, and the like are "adjacent wetlands." [40 CFR 230.3(b)]

Administrative Procedure Act (APA), 5 U.S.C. 706

Federal Courts may: a) Compel agency action unlawfully withheld or delayed; and b) set aside agency action if all administrative avenues/remedies are exhausted, and it finds that the challenged agency action is: i) Arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law; or ii) Contrary to constitutional right; or iii) In excess of statutory jurisdiction, authority, privilege or immunity; or iv) Without observance of procedure as required by law, or (etc). If a nonpoint source issue (i.e. alleged violation of water quality standards or Best Management Practices (BMPs), or a

permit to discharge is issued without “required” 401 certification, it is possible that a APA judicial complaint will be made.

After-the-fact Permits (ATF) Section 404

Plays an important part in resolution of violations. No ATF permit application shall be accepted until all administrative, legal and/or corrective action has been completed, or a decision has been made that no enforcement action is to be taken. In appropriate cases where the activity complies with the terms and conditions of a nationwide permit, the Corps District Engineer can elect to use the NWP for resolution of an after-the-fact permit situation following a consideration of whether or not the violation was knowing or intentional and other indications of the need for a penalty.

Agricultural Commodity

Any crop planted and produced by annual tilling of the soil or on an annual basis by one trip planters, or alfalfa and other multi-year grasses and legumes in rotation as approved by the Secretary. Land shall be considered planted to an agricultural commodity during a crop year if, as determined during the crop year, as determined by the NRCS, an action of the Secretary prevented land from being planted to the commodity during the crop year.

Agricultural Lands

Lands intensively used and managed for the production of food or fiber to the extent that the natural vegetation has been removed and cannot be used to determine whether the area meets applicable hydrophytic vegetation criteria in making a wetlands delineation.

A. Areas that meet the above definition may include intensively used and managed cropland, hayland, pasture land, orchards, vineyards, and areas which support wetland crops (e.g., cranberries, taro, watercress, rice). For example, lands intensively used and managed for pasture or hayland where the natural vegetation has been removed and replaced with planted grasses or legumes such as ryegrass, bluegrass, or alfalfa, are considered agricultural lands.

B. "Agricultural lands" include tree farms, rangeland, native pasture land, and other land used for livestock production farms.

Source: USDA/EPA/DOA/Army MOA Concerning the Delineation of Wetlands for Clean Water Act/Section 404 and Food Security Act/Subtitle B. 1/6/94 . NOTE: Agricultural Memorandum of Understanding definition of agricultural land was expanded to include not only cropland and pasture land, but also tree farms, rangeland, native pasture land, and other land used for livestock production.

Agricultural Memorandum of Agreement

US Army Corps of Engineers, US Environmental Protection Agency, US Fish & Wildlife Service, USDA Natural Resources Conservation Service
January 6, 1994

Recognizes Natural Resources Conservation Service as the lead federal agency for delineating wetlands on agricultural lands. Farmers will rely on Natural Resources Conservation Service for determining the extent of wetlands under both the Food Security Act (also known as Swampbuster program) and Section 404 of the Clean Water Act. The Section 404 regulatory program will continue to be administered by the Corps of Engineers and the EPA. Natural Resources Conservation Service will make wetland determinations on all agricultural lands and "other waters"(in coordination with the Corps) for USDA program participant landowners.

For the purposes of the MOA, the term "agricultural lands" means those lands intensively used and managed for the production of food or fiber to the extent that the natural vegetation has been removed and cannot be used to determine whether the area meets the hydrophytic vegetation criteria in making a wetland determination. "Agricultural lands" do not include range lands, forest lands, wood lots, or tree farms. Further, lands where the natural vegetation has not been removed, even though that vegetation may be regularly grazed or mowed and collected as forage or fodder are not considered agricultural lands for the purposes on the MOA.

Antidegradation policy

Requires that state standards be sufficient to maintain existing beneficial uses of navigable waters, preventing their further degradation. EPA requires that state water quality standards include "a statewide antidegradation policy" to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected [30 CFR 131.12, 1313(d)(4)(B)]. Section 131.12 sets a three-tiered approach for water quality protection. "Tier I" [40 CFR 131.12 (a)(1)] maintains and protects existing uses and the water quality necessary to protect these uses. "Tier II" [Sec. 131.12(a)(2)] protects the water quality in waters whose quality is better than that necessary to protect "fishable/swimmable" uses. Outstanding National Resource Waters (ONRWs) are given the highest level of protection under the antidegradation policy ("Tier III").

Aquatic Ecosystem OR Aquatic Environment

Waters of the United States, including wetlands, that serve as a habitat for interrelated and interacting communities and populations of plants and animals.
[40 CFR 230.3(c)]

Wetlands whose water quality must be absolutely maintained and protected. Under Clean Water Act 404(q), a requirement for dispute elevation procedures laid out in a 1992 US EPA and US Army Corps of Engineers memorandum of agreement is that a

project would cause adverse effects to an ARNI, or Aquatic Resources of National Importance. Analogous to rivers designated as Outstanding National Resource Waters (ONRW). Other special aquatic sites are defined to include sanctuaries, refuges, wetlands, mud flats, vegetated shallows, and pool-riffle complexes. An ARNI I letter to the US Army Corps of Engineers states that a project “may affect” an ARNI. In contrast, an ARNI II letter states that the project “will affect” an ARNI. ARNI II is the vehicle for potentially vetoing (by USEPA) a potential permit (by USACE) under Section 404(c). Only 13 permits have been vetoed nationally.

Artificial Wetland

[FR (61) 174, p 47027]

An area that was formerly non-wetland, but now meets wetland criteria due to human activities, such as: 1) An artificial lake or pond created by excavating or diking land that is not a wetland to collect and retain water that is used primarily for livestock, fish production, irrigation, wildlife, fire control, flood control, cranberry growing, or rice production, or as a settling pond; or (ii) a wetland that is temporarily or incidentally created as a result of adjacent development activity.

Best Management Practices (BMPs)

In 1975, as required by NRDC vs. Train, EPA developed revised regulations to implement Section 208. These regulations established the concept of Best Management Practices (BMPs) as the appropriate tool for nonpoint source control. EPA defined a BMP as: “a practice or combination of practices, that are determined by a state, or designated area-wide planning agency, after problem assessment, examination of alternative practices, and appropriate public participation, to be the most effective, practicable (including technological, economic and institution considerations) means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals.” Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States from discharges of dredged or fill material. BMPs include methods, measures, practices, or design and performance standards which facilitate compliance with the Section 404(b)(1) Guidelines (40 CFR Part 230), effluent limitations or prohibitions under Section 307(a), and applicable water quality standards (40 CFR 53:108,p 20774). Section 404(f)(1)(E) exempts the construction and maintenance of forest roads which comply with 15 best management practices to minimize impacts on the aquatic environment. 40 CFR 232.3 (c)(6) sets out baseline BMPs. State agencies such as the Texas Forest Service and organizations such as the Texas Forestry Association are instrumental in logger education and training in forestry BMPs for road construction and maintenance, harvesting, site preparation/planting, prescribed burning, wild fires, and streamside zones. More information is available at the following website:
http://txforestservicetamu.edu/forest_management/best_management_practices/index.html

Categorical Exclusion

A category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect in procedures adopted by a Federal agency in implementation of these regulations (40 CFR 1508.4 NEPA) and for which, therefore, neither an environmental assessment nor an environmental impact statement is required.

CLEAN WATER ACT

Section 101 Declaration of Goals and Policy (33 U.S.C. 1251)

Subsection (g) preserves state jurisdiction over water allocation and protects water rights.

Section 122.7 defines silvicultural point sources as "...any discernible, confined, and discreet conveyance related to rock crushing, gravel washing, log sorting^{**}, or log storage facilities^{**} which are operated in connection with silvicultural activities and from which pollutants are discharged into the waters of the United States. The term "point source" does not include nonpoint source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance from which there is natural runoff."

NOTE Log sorting and storage facilities are those of a more permanent nature, such as found at mills and major reload facilities as well as those found in Alaska where logs are dropped into bays for storage and transport. Those landings authorized under a timber sale contract are part of the harvesting activities and do not fall into this category.)

Section 208 Areawide Waste Treatment Management (33 U.S.C. 1288). In addition to establishing a process for state treatment planning, this section requires state plans to address several nonpoint sources of pollution: I) agriculture and silviculture (subsection (b)(2)(F)); ii) mines (subsection (b) (2)(G)); and iii) dumps/landfills (subsection (b)(2)(K)).

Section 301 Effluent Limitations (33 U.S.C. 1311) Provides for the establishment of effluent limitations for the control of discharges of pollutants from point sources. Makes the "discharge of pollutants" unlawful, unless the discharge is in compliance with, among other things, effluent limitations or a permit under either section 402 (NPDES) or section 404 (Dredge and Fill). Prohibits the unpermitted discharge of any pollutant into waters of the U.S., allows issuance of permits under Section 404.

Section 301(a): Discharge of a dredged or fill material from a point source to a water of the United States by a person without or in violation of a Section 404 permit.

Section 303 Water Quality Standards and Implementation Plans (333 U.S.C. 1313)
Requires that water quality standards contain two components: designated use and the water quality criteria and that projects be consistent with both components. Subsection (a) “grandfathers” any state water quality standards in effect prior to effective date of Clean Water Act (Oct. 18, 1972) and requires states that do not have such standards to submit them to EPA for approval. Subsection (b) provides for EPA-promulgated state water quality standards for states that do not submit standards or submit inadequate standards. Subsection (c) provides for the periodic (at least every 3 years) review of state water quality standards must contain the designated uses, e.g., municipal water supply or recreation, and the water quality criteria, e.g., narrative or numerical goals and safety levels, needed to attain or maintain those uses. Accordingly, a project that does not comply with a designated use of the water does not comply with the applicable water quality standard. Section 303(d) and EPA’s Water Quality Planning and Management Regulations (40 CFR Part 130) established a process for:

Total Maximum Daily Load (TMDL): The states or EPA is required to develop TMDLs for “those pollutants which (EPA) identifies...as suitable for such calculation.” Note that the specific tie is to the “suitability for calculation” and not to the pollutants that are exceeding the effluent levels. The TMDLs are to be established at a level adequate “to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account the relationship between effluent limitations and water quality.”

A TMDL is the sum of 1) Waste Load Allocation (WLA) or portion of the receiving water’s loading capacity that is allocated to an existing or future point source discharge, (2) Load Allocation (LA) or portion of the receiving water’s loading capacity that is attributable to either existing or future nonpoint source pollution or to natural background sources, and 3) a Margin of Safety (MS) or that portion of a receiving water’s loading capacity that is allocated to uncertainty. The relationship is represented by $TMDL = WLA + LA + MS$. States are required to identify and list water bodies where water quality standards are not met following the application of technology-based controls, and to establish TMDLs for these water quality limited waters. The U.S. Environmental Protection Agency is required to approve or disapprove State lists and TMDLs, and to develop lists and TMDLs where States fail to do so.

Section 304 Information and Guidelines (33 U.S.C. 1314)

This section directs EPA to provide information and guidance on various water quality elements. Subsection (a)(2)(D) directs EPA to identify pollutants suitable for TMDL calculation. Subsection (f) provides for EPA guidance on control of nonpoint sources of pollution, including agricultural and silvicultural activities, mining activities, and construction activities. Subsection (k) provides for agreements by EPA, Agriculture, Army, Interior, and other federal agencies for implementation of section 208 plans and section 319 programs for control of nonpoint sources.

Section 305 State Reports on Water Quality (33 U.S.C. 1315)

Subsection (b) provides for biennial state reports on water quality of all navigable waters within each state and the identification of problem areas, solutions, and the benefit/cost of those solutions.

Section 308 Gives EPA the authority to obtain information from an alleged violator necessary to carry out enforcement responsibilities under the Clean Water Act.

Section 309(a) EPA Enforcement Authority

This section provides for EPA enforcement of effluent limitations, point source discharge permits (section 402), dredge & fill discharge permits (section 404), and other point source-related requirements through administrative penalties, civil actions, and criminal penalties, if a state fails to enforce.

309(a): EPA is authorized to issue an administrative compliance order (AO) requiring a violator to cease an ongoing unauthorized discharge and refrain from future illegal discharge activity, and where appropriate to remove unauthorized fill and/or otherwise restore the site. Cannot seek administrative penalties for non-compliance with an AO.

309(b): EPA may seek monetary penalties, injunctive relief, and

309(c) criminal action through which to obtain a court order, prison sentences through judicial action. Also, may refer cases to the Department of Justice for civil and/or criminal litigation.

309(d): civil action through which to obtain a court order, also under 311(b)(6)(B)

309(g): EPA has the authority to assess civil administrative penalties for, among other things, violations of Section 404 and activities not authorized by 301, 308, and 401 of the Act.

Section 311 Oil and Hazardous Substance Liability (33 U.S.C. 1321) This section addresses discharges (leaks, spills, etc.) Of oil or hazardous substances into navigable waters and the contiguous zone. It provides for restoration activities, prevention plans, recovery of natural resource injuries and damages, and third party liability. This section contains several unique terms and definitions, and is often included in CERCLA NRDA's.

Section 313 Federal Facilities Pollution Control (33 U.S.C. 1323).

This section waives: a) sovereign immunity and supremacy of the Federal Government so that; b) Any federal agency i) having jurisdiction over facilities or property ii) or engaged in any activity resulting in (A) Discharge of pollutants (point sources); or (B) Runoff of pollutants (non-point sources) c) must comply with all Federal, State, interstate, and local i) requirements, ii) administrative authority, iii) and process and sanctions; d) respecting the control and abatement of water pollution; e) in the same manner and to the same extent as any non-governmental entity; f) including the payment of reasonable service charges. i) Proportional benefits available for fee charges ii) Non-discriminatory application iii) Revenues do not exceed costs in providing such services. G) Federal

officials and employees are not made personally civilly liable by this section for actions taken in the performance of official duties (however this may not be true for alleged criminal responsibility U.S. v. Curtis); h) Federal liability for civil penalties is limited to penalties arising under federal law or imposed by a state or local court to enforce its orders (i.e. no civil penalties allowed at this time for past CWA violations; DOE v. Ohio (cf RCRA and SDWA)).

Section 319 Non-Point Source Management Programs (33 U.S.C. 1329)

Established a national program to control nonpoint sources of water pollution. Under section 319, States address nonpoint pollution by assessing nonpoint source pollution problems and causes within the State, adopting management programs to control the nonpoint source pollution, and implementing the management programs. Section 319 authorizes EPA to issue grants to States to implement management programs approved by EPA. Subsection (a) provides for state assessment reports to identify: water bodies with nonpoint source pollution problems, ii) processes to identify best management practices (BMPs) and measures to control nonpoint sources; and iii) processes to reduce, to the maximum extent practicable, nonpoint source pollution. Subsection (b) requires each state to develop a state program to control the nonpoint source pollution problems identified in the state assessment reports (305(b)). The state program is to identify BMPs and measure to : a) reduce nonpoint source pollution, b) identify programs (regulatory and nonregulatory) for control of this pollution, c) identify federal assistance and funding to control this pollution; and d) identify federal financial assistance programs and federal development projects that the state will review for their effect on nonpoint source pollution.

Section 401 Water Quality Certification (33 U.S.C. 1341)

Requires an applicant for a federal license or permit to conduct any activity "which may result in any discharge into the navigable waters" to obtain State "Water Quality" Certification such that the discharge will comply with the applicable provisions of sections 1311, 1312, 1313, 1316, and 1317 of this title." Section 401(d) further provides that "any certification...shall set forth any effluent limitations and other limitations, and monitoring requirements necessary to ensure that any applicant...will comply with any applicable effluent limitations and other limitations, under section 1311 and 1312 of this title...and with any other appropriate requirement of State law set forth under such certification."

Sec. 1341(d). Pursuant to sec. 401, minimum flow conditions have been considered a limitation. Sections 101(g) and 510(2) preserve the authority of States to allocate water quantity between users. In addition, the courts have established that minimum stream flow requirements neither reflect nor establish proprietary rights" to water. The requirement for a state certification applies not only to applications for licenses from FERC, but to all federal licenses and permits for activities which may result in a discharge into the Nation's navigable waters. (Jefferson City.PUD v. Ecology Dept. of Wash., 92-1911 Opinion, May 31, 1994).

Section 402(p)

National Pollutant Discharge Elimination System Permits (NPDES Permits) (33 U.S.C. 1342)

Major tool of the Clean Water Act after “receiving water” limitations proven unsuccessful. Provides for the permitting by EPA or by a primacy state of a “discharge of a pollutant(s).” Section 402 requires EPA to address "storm discharges associated with industrial activities". EPA's definition of storm water discharges associated with industrial activity is found in 40 CFR 122.26(b)(14) and means "the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant." Subsection (l)(1) provides that EPA cannot require an NPDES permit for irrigation return flows and can not require a state to require such a permit. This ties to the exclusion of agricultural stormwater discharges and irrigation return flows in the definition of “point source” in section 502(14). Subsection (l)(2) provides a similar restraint on EPA with regard to permit requirements for stormwater runoff from oil, gas, and mining operations that is collected and discharged from pipes or other conveyances,.... a) which are not contaminated by; or b) do not come in contact with c) any overburden, raw material, intermediate, finished, waste, or byproducts located on the site of the operations.

Silvicultural activities excluded from National Pollutant Discharge Elimination System (NPDES) permitting requirements per 40 CFR 122.3 (3), July 1, 1990, includes "Any introduction of pollutants from nonpoint source agricultural and silvicultural activities including storm water runoff from ..., range lands and forest lands, ... but not discharges from silvicultural point sources as defined in Section 122.7." (Section 122.3(e)) Section 402 stormwater discharges regs are targeted at the control of storm water runoff from construction sites where disturbed areas will be 5 acres or greater in size, including a collection/ delivery system that discharges the runoff through a point source. Phase II (40 CFR 122,123 Jan. 9, 1998) expanded the program to smaller municipalities and construction sites that disturb 1-5 acres on March 1,1999 or thereafter.

Section 404 The US Army Corps of Engineers is directed under Section 404 of the Clean Water Act (33 USC 1344) to regulate the discharge of dredged and fill material into all waters of the United States including wetlands. The intent of the law is to protect the nation's waters from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical and biological integrity.

Section 404(f)(1) Exemption of Farm and Forest Roads (33 CFR Part 323.4(a)(6)) 04
April 1996 Regulatory Guidance Letter - EPA Headquarters to Region X

Determination of whether a road is a forest road under Section 404(f)(1)(E) is not limited to consideration of its use in tree harvesting per se. A forest road may be intended to provide access for planting, fire control, or similar silvicultural support. A road initially used to transport gravel for use in timber road construction, and which will subsequently be used in timber harvesting, may also be considered a forest road. Determinations of

road use assume that the road is intended to be used solely for such forest activities. For example, if the road to the gravel pit were also used for gravel transport for uses other than forest road construction or reconstruction, it would not be eligible for the exemption as a forest road. Similarly, if a road through a National Forest would principally serve tourists visiting a recreational site, not the actual business of silviculture, it would not be a forest road. Because farm roads are covered by the same provision of law and regulation, the above guidance also applies to farm roads. To qualify for a Section 404(f) exemption, a forest or farm road must comply with the requirements of 33 CFR 323.4(a)(6), 33 CFR 323.4(b), and 33 CFR 323.4(c) (implementing Section 404 (f)(2). The forest or farm road must be part of an ongoing silviculture, farming or ranching operation, which will comply with best management practices of 33 CFR 323.4(a)(6).

Application of Section 404(f) to the conversion of bottomland hardwood forests to monoculture pine plantations

There are three critical legal issues involved in determining whether the conversion of a bottomland hardwood forested wetland to a pine plantation is an exempt activity under Section 404(f) of the Clean Water Act.

(1) Whether such conversion is a "normal silviculture" activity under Section 404(f) (1) (A).

(2) Whether such conversion is a new use subject to recapture under Section (f) (2).

If conversion of a bottomland hardwood forested wetland into a monoculture pine plantation is not a "normal silviculture" activity, then it is unlawful unless authorized by a permit. Even if it is a "normal silviculture" activity, then it must have a permit if the conversion either impairs the flow or circulation of the wetland or reduces its reach (by turning it into uplands).

Activities not requiring a 404 permit:

- mechanical silvicultural site preparation in seasonally-, intermittently-, temporarily-flooded, or saturated wetlands do not require a permit if BMPs listed below are implemented. Saturated wetlands are characterized by substrate saturated to the land surface for extended periods during the growing season or by surface water that is seldom visible. Saturated wetlands include Pine Flatwoods, Pond Pine Woodlands, and Wet Flats (e.g. certain pine/hardwood forests). Conditions of forested wetlands BMPs to be met in order to be exempt from section 404 permit requirements:

(1) Position shear blades or rakes at or near the soil surface and windrow, pile, and otherwise move logs and logging debris by methods that minimize dragging or pushing through the soil to minimize soil disturbance associated with shearing, raking, and moving trees, stumps, brush, and other unwanted vegetation;

- (2) Conduct activities in such a manner as to avoid excessive soil compaction and maintain soil tilth.;
- (3) Arrange windrows in such a manner as to limit erosion, overland flow, and runoff.;
- (4) Prevent disposal or storage of logs and logging debris in streamside management zones - defined areas adjacent to streams, lakes, and other waterbodies - to protect water quality;
- (5) Maintain the natural contour of the site and ensure that activities do not immediately or gradually convert the wetland to a non-wetland; and
- (6) Conduct activities with appropriate water management mechanisms to minimize off-site water quality impacts.

Memorandum to the Field on the Applicability of Exemptions under Section 404(f) to “Deep-Ripping” Activities in Wetlands. US Army Corps of Engineers. Dec. 12, 1996

This Memo clarifies deep-ripping and “normal” activities listed in Section 404(f)(1)(A), “recapture” provisions in Section 404(f)(2), and activities in depressional wetlands: The words “such as” have been consistently interpreted as restricting Section 404 to activities named in the statute and other activities of essentially the same character as named. This precludes the extension of an exemption...to activities that are unlike those named. [44 CFR 34264]

Plowing does not include the redistribution of surface material in a manner which converts wetlands to uplands [see 40 CFR 233.35(a)(1)(iii)(D)].

Discharges associated with activities that establish an agricultural operation in wetlands where previously ranching had been conducted, represents a “change in use” within the meaning of Section 404(f)(2). Discharges that establish forestry practices in wetlands historically subject to agriculture also represent a change is use [see 40 CFR 233.35(c)]

Section 404(f)(2) “recaptures” or reestablished the permit requirement for those otherwise exempt discharges which:

- a. convert an area of the waters of the U.S. to a new use, and
- b. impair the flow or circulation of waters of the U.S. or reduced the reach of waters of the U.S.

Even if discharges are only “incidental to” or “part of” an activity rather than a sole cause of reduction or impairment of reach, flow, or circulation of waters of the U.S., recapture provisions would be in effect.

“Deep-ripping” is the mechanical manipulation of the soil to break up or pierce highly compacted, impermeable or slowly permeable subsurface soil layers, or similar kinds of restrictive soil layer, commonly to depths exceeding 16 inches, and as deep as 6-8 feet below the soil surface to break restrictive soils layers and to improve drainage at sites that have not supported deeper rooting crops. When deep-ripping and related activities are part of an established, ongoing agricultural, silvicultural, or ranching operation, to break up compacted soil layers and where the hydrology of the site will not be altered to an upland, such activities are exempt under Section 404(f)(1)(A). Deep-ripping and related activities in wetlands are not part of an ongoing activity, and therefore not exempt, when such practices are conducted in association with efforts to establish for the first time (or when a previously established operation was abandoned) an agricultural, silvicultural or ranching operation. In addition, deep-ripping and related activities are not exempt when such practices would trigger the “recapture” provision of Section 404(f)(2). Deep-ripping to establish a farming operation at a site where a ranching or forestry operation was in place is a change in use of such a site. Deep-ripping and related activities that also have the effect of altering or removing the wetland hydrology of the site would trigger the “recapture” provision and would require a permit. Deep-ripping a site that has the effect of converting wetlands to non-waters would also trigger Section 404(f)(2) and such ripping would require a permit. Deep-ripping and similar practices conducted in prairie potholes, vernal pools, playas and similar depressional wetlands destroy the hydrological integrity of these wetlands...In these circumstances, deep-ripping in prairie potholes, vernal pools, and playas is recaptured under Section 404(f)(2) and requires a permit under the Clean Water Act.

Memorandum to the Field (11/28/95), Corps and EPA Regulatory Program Chiefs, summarized as follows:

Mechanical site preparation activities in the following areas require a permit unless they have been so altered through past practices (including water management structures) as to no longer exhibit distinguishing characteristics as follows:

- 1) Permanently flooded, intermittently exposed, and semi-permanently flooded wetlands. permanently flooded wetlands - surface water covers land surface throughout the year in all years. examples - Cypress-Gum Swamps, Muck and Peat Swamps, Cypress Stands and Domes. ; intermittently exposed wetlands - surface water is present throughout the year except in years of extreme drought; semi-permanently flooded wetlands - surface water persists throughout the growing season in most years and, when it is absent, the water table is usually at or near the surface.

2) Riverine Bottomland Hardwood wetlands. seasonally flooded (or wetter) bottomland hardwood wetlands within the first or second bottoms of the floodplains of river systems.

Hydrologic characteristics - surface water present for extended periods, especially early in the growing season (determined by 28 degrees F or higher temperatures in 1987 Corps of Engineers Wetlands Delineation Manual), usually greater than 14 consecutive days, but usually absent by the end of the season. When surface water is absent, the water table is often near the land surface. Field indicators - water-stained leaves, drift lines, water marks on trees.

Vegetative characteristics - forested wetland where hardwoods dominate the canopy. In mixed pine-hardwoods, sites must have 25% or less pine canopy.

Soil characteristics - includes riverine bottomland hardwoods with listed hydric soils that are poorly or very poorly drained. Does not include sites with hydric soils that somewhat poorly drained or that do not demonstrate chroma, concretions, and other field characteristics of hydric soils.

3) White Cedar Swamps - wetlands greater than 1 acre in headwaters and greater than 5 acres elsewhere, underlain by 1 meter of greater of peat, and vegetated by white cedar representing more than 50% of basal area, where the total basal area for all tree species is 60 sq.feet or greater.

4) Carolina Bay wetlands - oriented, elliptical depressions with a sand rim, either a) underlain by clay-based soils and vegetated by cypress; or, b) underlain by 1/2 meter or greater of peat and typically vegetated with an overstory of Red, Sweet, and Loblolly Bays.

5) Non-riverine Forested Wetlands - rare, high quality(not significantly affected by forest management or other activities) forested wetlands with mature vegetation in the SE coastal plain and characterized by high water tables.

a) Non-riverine Wet Hardwood Forests - poorly drained mineral soil interstream flats (10 or more contiguous acres), typically on margins of large peatlands, seasonally flooded or saturated by high water tables, dominated by bald cypress, swamp tupelo, water tupelo, or Atlantic White Cedar alone or in combination. Non-riverine Forest Wetlands dominated by red maple, sweetgum, or loblolly pine alone or in combination are not high quality, and therefore require no permit.

6) Low Pocosin wetlands: central, deepest parts of domed peatlands on poorly drained interstream flats, underlain by peat soils greater than one meter, typically vegetated by a dense layer of short shrubs.

7) Wet Marl Forests : hardwood forested wetlands underlain by poorly drained marl-derived, high pH soils

8) Tidal Freshwater Marshes: wetlands regularly or irregularly flooded by freshwater with dense herbaceous vegetation, on the margins of estuaries or drowned rivers or creeks.

9) Maritime Grasslands, Shrub Swamps, and Swamp Forests: barrier island wetlands in dune swales and flats, underlain by wet mucky or sandy soils, vegetated by wetland herbs, shrubs, and trees.

Section 505 Citizen suits

Subsection (a) provides that a) any citizen (includes states) may bring a civil action against any person, including the United States or another governmental entity, b) for alleged violations of an effluent standard or limitation. i) does not include violation of non-point sources; ii) does include violations of NPDES permits iii) does include 401 certifications iv) does include operating without a permit under section 301 c) or a violation of an order of EPA or state related to such standard or limitation, d) or against EPA for failure to perform a nondiscretionary duty.

Subsection (b) establishes a 60-day notice requirement prior to initiation of a Clean Water Act (CWA) citizen suit; courts have held this to be jurisdictional (i.e. A court would have no jurisdiction to hear the matter) (Note: This may not be the case if a combination APA/citizen suit is filed). It precludes a citizen suit if EPA or a state has already initiated and is diligently prosecuting enforcement litigation, but it allows a citizen to intervene, as a matter of right, in the enforcement litigation.

Subsection (c) provides for citizen suit venue to be solely in the judicial district in which the discharge source is located and allows EPA to intervene as a matter of right.

Subsection (d) provides for the award of litigation costs, including attorney fees and expert witness fees, to a prevailing/substantially prevailing party.

Section 510 State Authority (33 U.S.C. 1370)

Protects state authority to control waters and water quality from federal preemption, unless expressly provided otherwise in the Act. State can impose limitations, conditions, or other water pollution control requirements that are more stringent, but not less stringent, than those imposed under the Act.

Section 511 Federal Authority Under Other Laws and Regulations (33 U.S.C. 1371)

This section preserves the general authorities of federal agencies, unless they are inconsistent with the Clean Water Act. It also exempts most actions by EPA from the requirement to prepare an environmental impact statement under the National

Section 518 Tribal Authorities (33 U.S.C. 1377)

This section generally provides that Indian tribes may be treated as “states” for the purposes of the Clean Water Act. It contains definitions of “Federal Indian reservation” and “Indian tribe.”

Coastal Zone Act of 1997 (CZMA)

Established a program for States to voluntarily develop comprehensive programs to protect and manage coastal resources, including the Great Lakes. To receive Federal approval and funding, States had to demonstrate that they had coastal programs with enforceable policies to regulate land uses, water uses, and coastal development and to resolve conflicts between competing uses. In addition, they had to have the authorities to implement the enforceable policies.

Coastal Zone Act Reauthorization Amendments of 1990 (CZARA)

Amendments to address the major concern of impacts of nonpoint source pollution on coastal waters. To address more specifically the nonpoint source impacts on coastal water quality, Congress enacted section 6217, "Protecting Coastal Waters," codified as 16 U.S.C. sec. 1455 b., which provides that States with an approved coastal zone management program must develop and submit to EPA and the National Oceanic and Atmospheric Administration (NOAA) for approval a Coastal Nonpoint Pollution Control Program.

Update: In December 2000/January 2001, EPA and NOAA extended many states' CZARA conditional approvals for an additional two years to complete the development and obtain full approval of their coastal nonpoint programs. Preparing interim decision memos is only one of the ways in which EPA and NOAA intend to help expedite CZARA program approvals. Other approaches, as outlined in the individual states' conditional approval extension letters, include drafting a National Report and Strategy to assist the states in achieving full approval as soon as feasible. There are many other related programs that may help expedite completion of the CZARA conditions, including: TMDLs, NPDES Phase II, Farm Bill, National Estuary Programs, and state watershed plans.

6217 Management Area

A component of the state coastal nonpoint pollution program which delineates the geographic scope of that state's coastal nonpoint program, and which includes inland waters "to the extent necessary to control land and water uses that have a significant impact on coastal waters of the

State."(Section 6217(e)(1)).EPA issued Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters under 6217(g) in January 1993. The guidance identifies management measures for five major categories of nonpoint source pollution: agriculture, forestry, urban, marinas and recreational boating, and hydromodification.

Management Measures

Economically achievable measures to control the addition of pollutants to coastal waters, which reflect the greatest degree of pollutant reduction through the application of the best available nonpoint pollution control practices, technologies, processes, citing criteria, operating methods, or other alternatives. 10 Management Measures are: preharvest planning, streamside management areas*, road construction/reconstruction, road management, timber harvesting, site preparation and forest regeneration, fire management, revegetation of disturbed areas, forest chemical management, and wetland forest management. Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 or CZARA). Applies only to nonpoint source activities.

Commended-conversion wetland
[FR (61) 174, p 47027]

A wetland, farmed wetland, farmed-wetland pasture, or converted wetland on which conversion began, but was not completed, prior to December 23, 1985.

Constructed wetlands

Engineered systems designed to simulate natural wetlands to exploit the water purification functional value for human use and benefits. Constructed wetlands consist of former upland environments that have been modified to create poorly drained soils and wetlands flora and fauna for the primary purpose of contaminant or pollutant removal from wastewaters or runoff. Constructed wetlands are essentially wastewater treatment systems and are designed and operated as such though many systems do support other functional values.

SOURCE: EPA-840-B-92-002 Jan. 1993

Conversion of Use

Any discharge of dredged or fill material into waters of the United States incidental to any of the activities identified in paragraph (c) of Section 232.2 must have a permit if it is part of an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced. Where the proposed discharge will result in significant alterations to flow or circulation, the presumption is that flow or circulation may be impaired by such alternatives.

For example, a permit will be required for conversion of a cypress swamp to some other use or the conversion of a wetland from silvicultural to agricultural use when there is a discharge of dredged or fill material into waters of the U.S. in conjunction with construction of dikes, drainage ditches or other works or structures used to effect such conversion. A conversion of section 404 wetland to a non-wetland is a change in use of an area of waters of the U.S. A discharge which elevates the bottom of waters of the U.S. without converting it to dry land does not thereby reduce the reach of, but may alter the flow or circulation of, waters of the U.S.

Converted Wetlands

[FR (61)174 p 47027]

Areas which were designated as wetlands and which have manipulated (drained, filled, ditched, leveled, excavated, cleared of woody vegetation, or any activity that results in impairing or reducing the flow, circulation or reach of water) for the purpose of or to have the effect of making possible the production of an agricultural commodity without further manipulation if:

- (I) Such production would not have been possible but for such action, and
- (Ii) Before such action such land was wetland, farmed wetland, or farmed-wetland pasture and was neither highly erodible cropland.

Cumulative Effects on the aquatic ecosystem

Changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material.

[40 CFR 230.11(g)]

Discharge of Dredged Material

Any addition of dredged material into, including any redeposit of dredged material within, the waters of the United States for the primary purpose of replacing an aquatic area with dry land or of changing the bottom elevation of a waterbody. The term includes, but is not limited to, the following:

- (I) the addition of dredged material to a specified discharge site located in waters of the U.S.;
- (ii) the runoff or overflow from a contained land or water disposal area;
- (iii) any addition, including any redeposit, of dredged material including excavated material, into waters of the U.S. which is incidental to any activity, including mechanized landclearing, ditching, channelization, or other excavation.

Does not include:

- (i) discharges of pollutants into waters of the U.S. resulting from the onshore subsequent processing of dredged material that is extracted for any commercial use (other than fill).
- (ii) activities that involve only the cutting or removing of vegetation above the ground (e.g. mowing, rotary cutting, and chainsawing) where the activity neither substantially disturbs the root system nor involved mechanized pushing, dragging, or other similar activities that redeposit excavated soil material.

33 CFR 323.4(d) EPA's former definition excluded "plowing, cultivating, seeding and harvesting for the protection of food, fiber and forest products." The final rule deletes this entirely from the definition.

Update

"Discharge of Dredge Material" Definition

Final EPA, Corps Rule

The assistant secretary of the Army (Civil Works) and the Environmental Protection Agency administrator signed the Discharge of Dredged Material rule on January 8 and 9, 2001, respectively. The final rule modifies the definition of "discharge of dredged material" by clarifying what types of activities EPA and the Corps of Engineers believe typically result in regulable discharges, based on the nature of the equipment and agency experience. The rule indicates that the Corps and EPA regard the use of mechanized earth moving equipment to conduct landclearing, ditching, channelization, in-stream mining, or other earth-moving activity in waters of the U.S. as resulting in a discharge of dredged material, unless project-specific evidence shows that the activity results in only "incidental fallback." The rule also provides a definition of what constitutes non-regulable incidental fallback that is consistent with the recent District of Columbia Circuit court decision.

[Federal Register: January 17, 2001 (Volume 66, Number 11)] [Page 4549-4575]
EFFECTIVE DATE: February 16, 2001

Incidental fallback is the redeposit of small volumes of dredged material that is incidental to excavation activity in waters of the United States when such material falls back to substantially the same place as the initial removal. Examples of incidental fallback include soil that is disturbed when dirt is shoveled and the back-spill that comes off a bucket when such small volume of soil or dirt falls into substantially the same place from which it was initially removed .

In determining if a regulable discharge of dredged material occurs, we will carefully evaluate whether there has been movement of dredged material away from the place of initial removal.

In doing so, we will look to see if earth-moving equipment pushes or relocates dredged material beyond the place of excavation, as well as whether material is suspended or disturbed such that it is moved by currents and resettles beyond the place of initial removal in such volume as to constitute other than incidental fallback, and thus be a regulable discharge. In considering whether material is relocated, we will look at both horizontal and vertical relocation. For example, sidecasting, which involves horizontal relocation to the side of the ditch, is a regulable discharge. We also will take into account the amount or volume of material that is redeposited. Incidental fallback at issue in AMC and NMA was the small-volume fallback from excavation. Similarly, today's rule defines incidental fallback as the "small volumes of dredged material" falling back to substantially the same place as the initial removal. Therefore, we will consider the volume redeposited in deciding whether the activity results in only incidental fallback. Thus, the determination of whether an activity results in a regulable discharge of dredged material or produces only incidental fallback involves consideration of the location and the amount of the redeposit. Activities covered by section 404(f), including silviculture, ranching, and agriculture, involving the use of equipment and methods such as those described in the rulemaking remain exempt, subject to the provisions of section 404(f), and were not altered by the new rule.

Discharge of a pollutant

Addition of a pollutant from a point source to navigable waters. (Section 502, 33 U.S.C. 1362)

Dredged Material

Any material excavated from waters subject to the full jurisdictional reach of the Clean Water Act (39CFR 12119, April 3, 1974). Current definition no longer excludes "plowing, cultivating, seeding and harvesting for the protection of food, fiber and forest products." (33 CFR 323.2[d] replaced by 40 CFR 232.2[e]).

Effluent - Dredged material or fill material, including return flow from confined sites.

Effluent Limitations - State or EPA restrictions on point source discharges. (Section 502, 33 U.S.C. 1362)

Ephemeral Stream -An ephemeral stream is a water of the United States, provided it has an Ordinary High Water Mark (OHWM). An ephemeral stream that does not have an OHWM is not a water of the United States. The frequency and duration at which water must be present to develop an OHWM has not been established for the Corps regulatory program. Source: Federal Register: March 9, 2000 (Volume 65, Number 47)]

Farmed Wetland (FW) and Farmed-Wetland Pasture or Hayland (FWP)

[FR (61)174, p 47027] 9/6/96

Wetlands that:

Prior to December 23, 1985 was manipulated and used to produce an agricultural commodity, and on December 23, 1985, did not support woody vegetation and met the following hydrologic criteria:

(i) Is inundated for 15 consecutive days or more during the growing season or 10 percent of the growing season, whichever is less, in most years (50 percent chance or more), or

(ii) If a pothole, playa, or pocosin, is ponded for 7 or more consecutive days during the growing season in most years (50 percent chance or more) or is saturated for 14 or more consecutive days during the growing season in most years (50 percent chance or more).

For agricultural land, defines wetlands as lands inundated at least 7 consecutive days during the growing season in most years, or saturated at or near the surface for at least 14 consecutive days during the growing season in most years. Soils may be considered saturated if the water table is within: 0.5' of the surface for sandy soils or 1.0' of the surface for all other soils.(refer to 180-V-NFSAM, Third ed., Feb. 1994).

Fill Material

Final Revisions to the Clean Water Act Regulatory Definitions of "Fill Material" and "Discharge of Fill Material"

On May 9, 2002, the Federal Register published a final Corps and EPA rule reconciling their previously differing Clean Water Act section 404 regulations defining the term "fill material" and amended their definition of "discharge of fill material." The final rule completes a rulemaking process initiated by an April 20, 2000, proposal. The final rule amends the regulations so that both agencies have identical definitions of these key terms. The effective date for the final rule was June 10, 2002.

The final rule defines "fill material" in both the Corps' and EPA's regulations as material placed in waters of the U.S. where the material has the effect of either replacing any portion of the water of the United States with dry land or changing the bottom elevation of any portion of the water. The examples of "fill material" identified in the final rule include rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and material used to create any structure or infrastructure in waters of the U.S. This rule retains the effects-based approach of the April 2000 proposal. There is an explicit exclusion from the definition of "fill material" for trash or garbage.

Food Security Act Wetlands (W)

Food Security Act wetlands that are labeled (W) are areas that meet wetland criteria under natural conditions and have typically not been manipulated by altering hydrology and/or removing wood vegetation. Wetland includes areas that have been abandoned. Note: Some wetlands (W) may have been manipulated before 12/23/85, but were not cropped or used for pasture or hayland and continued to meet wetland criteria. (See Parts 515.21a/e). Use of Wetland (W) - Wetland (W) may be used to produce an agricultural commodity under natural conditions after December 23, 1985, so long as all of the following requirements are met:

production is made possible as a result of a natural condition, such as drought, and water regimes are not manipulated, and woody vegetation is not removed, and normal tillage practices are used that do not fill, level, or otherwise cause conversion of the wetland

Note: removal of herbaceous vegetation is not considered manipulation.

Forest Roads

[COE RGL 86-03 - Section 404(f)(1)(e) Exemption of Farm and Forest Roads - 33 CFR Part 323.4 (a)(6))

"The determination whether a road is a forest road under Section 404 (f)(1) (E) is not limited to consideration of its use in tree harvesting per se. That is, a forest road may be intended to provide access for planting, fire control, or similar silvicultural support activities. A road initially used to transport gravel for use in building roads for harvesting trees, and which subsequently will itself be used directly in harvesting, may also reasonably be considered a forest road. Of course, all the above assumes that the road is intended to be used solely for such forest functions.

For example, if the road to the gravel pit were also used to transport gravel for uses other than building and maintaining forest roads, it would not be eligible for the exemption as a forest road. Similarly, if a road through a National Forest would principally serve tourists visiting a recreational site in the Forest, not the actual business of silviculture, it would not be a forest road." Specifically with reference to 33 CFR 323.4(c), the forest road must be part of an ongoing silviculture, farming or ranching operation, which will not bring new areas into use, and which will comply with best management practices of 33 CFR 323.4(a)(6).

General Permit

DA authorization that is issued on a nationwide or regional basis for a category or categories of activities. (33 CFR 322.2(f)).

Growing Season

The portion of the year when soil temperatures 19.7 inches below the soil surface are higher than biologic zero (5 degrees C) (USDA - Natural Resources Conservation Service 1985). For ease of determination this period can be approximated by the number of frost-free days (USDI 1970).

Headwaters

Those waters, including adjacent wetlands, upstream of the point on the river or stream (i.e. a surface tributary) at which the average annual flow is less than five cubic feet per second. The median may be based on the six wettest months (they do not have to be consecutive) to more realistically represent headwaters on intermittent streams. A surface tributary system may consist of either :a.) defined channel or dendritic arrangement of channels with adjacent wetlands, or b.) part of a large continuum of waters or wetlands. This term is used as a demarcation point for Nationwide Permit 26. [33 CFR 330.2 (d)]

Hydric Soil

A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation [USDA - Natural Resources Conservation Service 1985, as amended by Nat. Tech. Comm. for Hydric Soils (NTCHS) in Dec. 1986] (US Army Corps of Engineers. Wetlands Delineation Manual. 1987. Vicksburg, MS).

Redoximorphic Features: All color patterns due to wetness are called redoximorphic features. Reddish orange mottles, bodies of apparent accumulation of iron-manganese oxides (called redox concentrations) form in soil layers that are alternatively wet and dry. Redox depletions refer to soil bodies of low chroma (2) having values of 4 or more where iron-manganese oxides and clay have been stripped out. Reduced matrices are soil matrices that have a low chroma color in situ because of the presence of Fe (II), but color changes in hue or chroma when exposed to air as the Fe (II) is oxidized to Fe (III). (Vepraskas, Michael J. May, 1994. Redoximorphic Features for Identifying Aquic Conditions, Technical Bulletin 301, Department of Agricultural Communications, North Carolina State University)

Hydrogeomorphic Approach (HGM)

A classification of wetlands developed by the US Army Corps of Engineers and based on wetland hydrogeomorphic properties of geomorphic setting, water source, and hydrodynamics. Indicators of function are derived from the three basic properties and ecological significance of each are assessed. Measurements of ecosystem function (or normal wetland processes) include four (4) basic functional groups: hydrologic, biogeochemical, plant/animal community composition, and habitat structure Each wetland class is defined by functional properties such as geomorphic setting, water

source(s), and hydrodynamics. The Corp's national template recognizes seven(7) classes of wetlands based hydrogeomorphic features...Riverine, Lake Fringe, Estuarine & Coastal Fringe, Slope, Organic & Mineral Flats, and Depressional Wetlands. There are regional subclasses and reference standards within each class of wetlands...for example, bottomland hardwoods (eastern US) and riparian forested wetlands (western US) are defined by reference sites under the broader Riverine Class.

Hydrophytic Vegetation

The sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present. Hydrophytic vegetation is prevalent in an area when the dominant species comprising the plant community or communities are typically adapted for life in saturated soil conditions (US Army Corps of Engineers. Wetlands Delineation Manual. 1987. Vicksburg, MS).

Individual Permit Section 404

A formal permit involving formal application involving 15 public notice and 25 day comment period followed by a public interest review covering 21-22 factors. This type of permit can be approved as is or be modified.

Isolated waters and wetlands

Those waters and wetlands that do not have a surface connection with other waterbodies. Nevertheless, they typically constitute important elements in the aquatic ecosystem and perform many valuable functions, including flood and erosion control, groundwater recharge, and pollution prevention, as well as providing critical habitat for migratory waterfowl and other wildlife. For the purposes of Nationwide Permit 26, isolated waters are waters of the United States that are not part of a "surface tributary system" to interstate waters or navigable waters of the United States.

[33 CFR 330.2 (e)]

Isolated Wetlands update 2002

An interpretation of the rule could potentially use ephemeral or intermittent streams, ditches, evidence of sub-surface hydrological connections or evidence of seasonal surface overflows to regulated tributary waters of the United States.

The Corps memorandum also states that "With respect to waters that are isolated, intrastate, and nonnavigable -- jurisdiction may be possible if their use, degradation, or destruction could affect other 'waters of the United States,' thus establishing a significant nexus between the water in question and other 'waters of the United States:'".

Corps Headquarters has not yet issued a Regulatory Guidance Letter (RGL) stating their definition of what constitutes an "isolated wetland".

The full text of the Supreme Court decision can be found at the following web site:

<http://supct.law.cornell.edu/supct/html/99-1178.ZS.html>

Solid Waste Agency of Northern Cook County, Petitioner V. United States Army Corps of Engineers. ("SWANNC" Case)

Background:

Petitioner Solid Waste Agency of Northern Cook County, which comprises 23 Cook County, Illinois municipalities, acquired a 500-acre-plus site to construct an urgently needed balefill facility to dispose of its communities' non-hazardous solid waste. Petitioner's plans called for filling some 17 acres of permanently or seasonally wet depressions left by earlier strip mining operations. After conducting an on-site inspection, the Corps informed SWANCC in 1986 and again in 1987 that 17.6 acres were not subject to the Corps' regulatory authority over "navigable waters" and that a Section 404 permit was not required. The Corps changed its position after the Illinois Nature Preserves Commission informed the Corps in July 1987 that its staff had observed migratory bird species on the property during a brief site visit. Based on that assessment, and invoking its "migratory bird rule," the Corps concluded that the isolated, intrastate strip-mining depressions on the balefill site were "navigable" "waters of the United States" within its jurisdiction under the CWA because they "are used or would be used as habitat by other migratory birds which cross state lines. The migratory bird rule's lack of any connection to commerce, reflected in the Corps' jurisdictional determination in this case, rendered the basis for federal jurisdiction as tenuous and raised doubts about the propriety of the Corps' assertion of jurisdiction.

The United States Supreme Court has agreed with the Center in the case of Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers. In a 5-4 decision, the Court ruled that Congress did not intend the term "navigable waters" to include the water-filled ditches on an abandoned strip mine and that s404 of the Clean Water Act does not extend regulatory coverage to wetlands not adjacent to navigable waters.

In its decision the Court drew a new jurisdictional line, one that invalidates the 1986 migratory bird regulation as well as the Corps' assertion of jurisdiction over all waters except for actually navigable waters, their tributaries, and wetlands adjacent to each. Its holding rests on two equally untenable premises: (1) that when Congress passed the 1972 CWA, it did not intend "to exert anything more than its commerce power over navigation," ante, at 7, n. 3; and (2) that in 1972 Congress drew the boundary defining the Corps' jurisdiction at the odd line on which the Court settled.

On Monday, January 22, 2001, the US Environmental Protection Agency and US Army Corps of Engineers issued a 10-page legal interpretation of SWANCC vs. USACOE

jointly signed by the Counsels of EPA and ACOE. A legal interpretation differs from guidance because it is an analysis of the current situation rather than directions on how to do things in the future. The document provides clarification on how the agency staff should implement the Section 404 program in response to the Supreme Court decision. The document is posted at the Association of State Wetland Managers website at <http://www.aswm.org/swancc/legal.pdf> or <http://www.aswm.org/swancc/legal.htm> until we are notified that it has been added to the agencies' websites.

Also in response to the Supreme Court decision, effective Friday, January 19, 2001, the Corps and EPA withdrew the Wilson guidance issued May 28, 1998 and supplemental guidance issued June 26, 1998. This guidance had been issued in response to the Fourth District decision in the case of United State vs. Wilson addressed Clean Water Act jurisdiction over isolated water bodies. Currently (March 7, 2001) the only ground lost is for wetlands which are connected to waters of the U.S. through migratory waterfowl use. Protection of isolated waters for industrial and recreational connection/adjacency/tributary to waters of the U.S. remains under debate. Question & Answer and other related documents are expected soon to help clarify matters.

Landclearing

In *Avoyells Sportmen's League, Inc. v. Marsh*, 715 F.2d 897, 923 - 24 (5th Cir. 1983), the term "discharge" is understood to include "redeposit" and therefore "discharge" covers the redepositing of soil taken from wetlands such as occurs during mechanized landclearing activities. Some limited exceptions may occur, such as cutting trees above the soil surface with a chain saw, but as a general rule, mechanized landclearing is a regulated activity. Other silvicultural activities which may include discharges, if conducted in a wetlands, include landclearing, the construction of dikes and bedding, harvesting and cultivation. For extensive discussion of activities involving discharges, see 58 Fed.Reg. 45008 (Aug. 25, 1993).

Management Practices

Application of methods appropriate to the source, location, and climates to implement management measures. The practice or set of practices chosen by the State needs to achieve the management measures. Since the silvicultural management measures developed for the CZARA are, for the most part, a system of practices that are commonly used and recommended by States and the U.S.Forest Service in guidance or rules for forestry-related nonpoint source pollution, there are many forestry operations for which practices or systems of practices have already been implemented. (EPA-840-B-92-002 p.3-2)

Manipulation

Alteration of the hydrology or removal of woody vegetation for the purpose or to have the effect of making the production of an agricultural commodity possible. Manipulation includes any action which removes excess water from a wetland, such as hydrological

alterations with dams, dikes, ditches, diversions, subsurface drains, pumps, or filling that is sufficient to affect the flow, circulation, or reach of water within the wetland or farmed wetlands [FSA Manual 512.01(c), 512.14(c)]

Minor drainage

(i) The discharge of dredged or fill material incidental to connecting upland drainage facilities to waters of the United States, adequate to effect the removal of excess soil moisture from upland croplands. Construction and maintenance of upland (dryland) facilities, such as ditching and tilling, incidental to the planting, cultivating, protecting, or harvesting of crops, involve no discharge of dredged or fill material into waters on the United States, and as such never require a Section 404 permit.

(ii) The discharge of dredged or fill material for the purpose of installing ditching or other such water control facilities incidental to planting, cultivating, protecting, or harvesting of rice, cranberries or other wetland crop species, where these activities and the discharge occur in waters of the United States which are in established use for such agricultural and silvicultural wetland crop production

(iii) The discharge of dredged or fill material for the purpose of manipulating the water levels of, or regulating the flow and distribution of water within, existing impoundments which have been constructed in accordance with applicable requirement of CWA, and which are in established use for the production of rice, cranberries, or other wetland crop species. The provisions of paragraphs (a)(1)(iii)(C)(1)(ii) and (iii) of this section apply to areas that are in established use exclusively for wetland crop production as well as areas in established use for conventional wetland/non-wetland crop rotation (e.g., the rotations of rice and soybeans) where such rotations results in the cyclical or intermittent temporary dewatering of such areas.)

(iv) The discharges of dredged or fill material incidental to the emergency removal of sandbars, gravel bars, or other similar blockages which are formed during flood flows or other events, where such blockages close or constrict previously existing drainageways and, if not promptly removed, would result in damage to or loss of existing crops or would impair or prevent the plowing, seeding, harvesting or cultivating of crops on land is established use for crop production. Such removal does not include enlarging or extending the dimensions of, or changing the bottom elevations of, the affected drainageway as it existed prior to the formation of the blockage. Removal must be accompanied within one year of discovery of such blockages in order to be eligible for exemption. [33 CFR 323.3 (C)(1)]

Minor drainage in waters of the United States is limited to drainage within areas that are part of an established farming or silviculture operation. It does not include drainage associated with the immediate or gradual conversion of a wetland to a non-wetland (e.g., wetland species to upland species not typically adapted to life in saturated soil conditions), or conversion from one wetland use to another (for example, silviculture to farming). In addition, minor drainage does not include the construction of any canal,

ditch, dike or other waterway or structure which drains or otherwise significantly modifies a stream, lake, swamp, bog or any other aquatic area constituting waters of the United States.

It does not include drainage associated with the immediate or gradual conversion of a wetland to a non-wetland,...or conversion from one wetland use to another (for example silviculture to farming). In addition, minor drainage does not include the construction of canal, ditch, or other waterway which drains or otherwise significantly modifies a stream, lake, swamp, bog, or any other wetland or aquatic area constituting waters of the United States (COE RGL 90-7). [40 CFR 232.3(C)(1)]

Mitigation

Mitigate is defined in Webster's 9th New Collegiate to mean "to cause to become less harsh or hostile, to make less severe." The Council on Environmental Quality (CEQ) defines at 40 CFR 1508 that mitigation includes the categories listed below.

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the effected environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations.
- Compensating for the impact by replacing or providing substitute resources or environments.

Developers whose projects adversely affect wetlands must avoid and then minimize adverse impacts to wetlands to the extent practicable (Section 404 CWA). In the event that adverse impacts are unavoidable, the developer is required to compensate by restoring a former wetland, enhancing a degraded wetland, creating a new wetlands, or preserving an existing wetland. Developers may perform their own compensatory mitigation, often on or near the development site, or they may pay third parties for mitigation, usually at locations away from the development site.

Mitigation by third parties has occurred under three types of arrangements in recent years: (1) "mitigation banks," often private for-profit entities, typically establish (restore, enhance, create, or preserve) wetlands under agreements with the Corps and then sell credits for these wetlands to developers;"(2) developers pay fees to public entities or private nonprofit natural resource management organizations that, usually under agreements with the Corps district offices, use accumulated free to establish wetlands (referred to as in-lieu-fee arrangements); and (3) developers pay individuals or entities, which are neither mitigation banks nor considered by the Corps to be in-lieu-fee organizations, to perform mitigation. A similar mitigation method, called conservation banks, is used by developers with the approval of Fish & Wildlife Service to compensate for adverse impacts to threatened or endangered species or critical habitat. Conservation

banking is addressed in Endangered Species Act: Fee-based Mitigation Arrangements (GAO-01-287R, Feb. 15, 2001).

The Corps and EPA, in coordination with the US Fish & Wildlife Service and NOAA, work together to ensure that developers mitigate adverse impacts to wetlands and other waters of the United States. EPA, in conjunction with the Corps, FWS, and NOAA, issued guidance setting standards for mitigation banks effective December, 1995 and for in-lieu-fee mitigation effective October 2000.

Mitigation and Nationwide Permits:

For the Nationwide Permit program, including the new and modified NWP, the purpose of compensatory mitigation is to ensure that the authorized work results in minimal adverse effects on the aquatic environment. For those activities that require notification to the district engineer, compensatory mitigation may be necessary to ensure that the authorized work results in minimal adverse effects on the aquatic environment. District engineers will determine, on a case-by-case basis, when compensatory mitigation is not practicable.

Compensatory mitigation is required when the District Engineer determines such mitigation is necessary to ensure that the activities authorized by Nationwide Permits (NWP) will result only in minimal adverse effects on the aquatic environment.

Compensatory mitigation will normally be required for NWP activities that require submission of a PCN (e.g., losses of greater than 1/4 acre of waters of the United States), and in all cases where compensatory mitigation is necessary to ensure that the authorized work results in minimal adverse effects on the aquatic environment. The District Engineer may determine that compensatory mitigation is not necessary for a particular project because the proposed work will result in only minimal adverse effects on the aquatic environment. Activities that do not require notification are presumed to result in minimal adverse effects and would not require compensatory mitigation to bring the adverse effects to the minimal level.

The NWP regulations at 33 CFR Part 330.1(e)(3) allow permittees to provide compensatory mitigation to reduce the adverse effects of the proposed work to the minimal level. The functions and values provided by waters of the United States that are lost due to authorized activities can be replaced by carefully planned and constructed restoration, enhancement, and creation of aquatic habitats.

The Corps can require compensatory mitigation in excess of a 1:1 ratio of impact acreage to compensatory mitigation acreage to adequately replace aquatic resource functions and values that are lost as a result of activities authorized by NWP. The Corps can also accept out-of-kind compensatory mitigation, if it is best for the aquatic environment. Existing policy and guidance for compensatory mitigation provides a preference for on-site and in-

kind replacement of the functions and values of the impacted aquatic resource. If on-site compensatory mitigation is not practicable, off-site compensatory mitigation should be undertaken in the same geographic area if practicable, (i.e., in close proximity and, to the

extent possible, the same watershed) or environmentally preferable. The Corps can also accept out-of-kind compensatory mitigation, if it is best for the aquatic environment.

Nationwide permit (NWP)

Refers to a type of general permit which authorizes activities on a nationwide basis with little, if any, delay in paperwork, unless specifically limited. There are 40 nationwide permits, (e.g. maintenance, outfall structures, oil and gas structures, utility line backfill and bedding, bank stabilization, minor discharges, 25 cubic yards dredging, approved categorical exclusions, headwaters and isolated waters discharges, wetland and riparian area restoration and creation activities, temporary construction and access, emergency watershed protection, minor road repairs, culvert installations).

Update

Summary of changes to NWP and General Conditions that could apply on forested lands

The final Nationwide Permits (NWPs) were released by the Corps on Jan. 15, 2002. The new rules took effect March 16, 2002. After that date, all NWPs will expire at the same time in 5 year increments.

Of the 11 new NWPs, or general permits, about half replace the controversial NWP 26. The NWPs include, for example, NWP 14, for linear transportation; NWP 31, for maintenance of existing flood control structures; and NWP 39, for residential, commercial and institutional developments. There is a new threshold of $\frac{1}{2}$ acre rather than 3 acres, meaning any project impacting more than $\frac{1}{2}$ acres would require an individual permit. A minimal-impact project is one that impacts $\frac{1}{2}$ acre or less and is covered under the general permits.

Corps Districts will no longer have to require a 1-to-1 mitigation for lost wetlands by which developers were required to create, restore, or buy one acre of wetlands for every acre destroyed. Developers are allowed to mitigate for wetland loss with vegetated buffers in lieu of on-site or off-site replacement wetlands. Each Corps District will only have to ensure that they break even with “no net loss” in their respective District.

New requirements now allow 300 feet or $\frac{1}{2}$ acre of intermittent or “seasonal” streams to be filled without requiring an individual permit. For example, an intermittent stream 8 feet wide could be filled for up to a half mile. For perennial streams, an individual permit is still required for projects exceeding the 300-foot threshold. The new regulations also eliminate some restrictions on development in flood plains.

NWP 14, Linear Transportation Facilities. Acreage limitations for this Nationwide Permit are unchanged at one-half acre for non-tidal wetlands and one-third acre for tidal wetlands. However, the 200 linear foot fill limitation has been removed. The Preconstruction Notification (PCN) threshold remains at one-tenth acre. That is, a PCN is required for all fill exceeding $\frac{1}{10}$ of an acre. A PCN is still required for projects with fill in special aquatic sites, regardless of acreage. These PCNs must include a compensatory

mitigation plan, as well as, delineation of all special aquatic sites, which include wetlands, riffle/pool complexes, sandflats, mudflats, vegetated shallows, and sanctuaries and refuges, as defined by the 404(b)(1) guidelines (40 CFR 230.40 SUBPART E). Features such as storm water management facilities and wetlands mitigation projects integrally related to the project can be constructed under this permit, so long as they meet any applicable general and local condition requirements.

NWP 27. Wetland and Riparian Restoration and Creation Activities. The Corps made only minor changes to this permit. The categories of lands addressed are simplified from four to three. Under paragraph (a), subparagraph (3) now includes any other public, private, and tribal lands which is not covered under subparagraphs (1) and (2). Streambank stabilization projects are covered by this NWP.

NWP 39 – Residential, Commercial, and Institutional Developments

The subdivision provision was simplified to apply to all, but only to, residential subdivisions, regardless of when they were built. It will apply to all lots in a subdivision and consider them in the aggregate one-half acre threshold.

The revised NWP 39 does not include restriction on stream channelization or relocation below the 1 cubic foot per second (cfs) point on a stream.

The revised NWP 30 also includes the allowance of a waiver of the 300 linear feet of intermittent (not perennial) stream bed on a case-by-case basis.

If the discharge results in a disturbance greater than one-tenth acre, notification is still required and must include a compensatory mitigation plan.

General Conditions

General Condition 9, Water Quality. This General Condition has been changed to require that, for NWP 14, where the State or Tribal §401 certification does not require or approve water quality management measures, the permittee shall provide water quality management measures, including storm water management, that will ensure that the authorized work does not result in more than minimal degradation of water quality, or the Corps determines that compliance with State or local standards, where applicable, will ensure no more than minimal adverse effect on water quality.

General Condition 13, Notification. This General Condition has been reworded, but remains substantively the same as far as required actions. Concerning impacts to wetlands, the condition requires submission of a compensatory mitigation plan consistent with the requirements of Condition 19, Mitigation.

General Condition 19, Mitigation. This general condition retains and reiterates the minimum ratio for compensatory mitigation on projects requiring a PCN at 1:1 unless the District Engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project specific waiver of this requirement.

General Condition 21, Management of Water Flows. The Corps is proposing to modify General Condition 21 to require that neither upstream nor downstream areas are subject to more than minimal flooding or dewatering after the project has been constructed and while the authorized activity is operated in order to ensure that postconstruction effects on local surface water flows are minimal..

General Condition 26, Fills within Floodplains. The language in this General Condition specifically applying to NWP 14 has been removed. The requirement to include verification of compliance with FEMA or FEMA-approved local floodplain construction requirements in a PCN (General Condition 13) has also been deleted. The revised condition now simply states that an applicant has to comply with any applicable FEMA-approved State or local floodplain management requirements.

Compensatory mitigation will be required when the District Engineer determines such mitigation is necessary to ensure that the activities authorized by NWPs will result only in minimal adverse effects on the aquatic environment. For the new and modified NWPs, an important component of compensatory mitigation is the establishment and maintenance of vegetated buffers adjacent to open and flowing waters. Vegetated buffers adjacent to open waters or streams may consist of either uplands or wetlands and help protect and enhance local water quality and aquatic habitat features in the waterbody. Vegetated buffers can be established by maintaining an existing vegetated area adjacent to open or flowing waters or by planting native trees, shrubs, and herbaceous perennials in areas with little existing perennial native vegetation. (refer to mitigation).

Navigable Waters

Waters of the U.S. This has been interpreted by the courts to include all surface, and hydrologically connected groundwater, including intermittent streams. This is vastly enlarged from the “navigable waters for title” definition. (Section 502, 33 U.S.C. 1362)

Normal Circumstances

Refers to the soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed. [FSA Manual 512.10(b), 7 CFR 12.31(b)(2)(i)]

Normal Silviculture

[Section 404(f)(1)(A)] Activities such as plowing, seeding, cultivating, minor drainage, harvesting for the production of...forest products, or upland soil and water conservation practices. EPA's regulations define "normal" silviculture as ongoing or established silviculture, with the objective of excluding from the term the initiation of silviculture. If an activity alters the reach, flow or circulation of waters of the U.S., it is not exempt, regardless if the activity is timber harvesting, planting, etc. (see Recapture provision).

NPDES Permit

National Pollutant Discharge Elimination System

Under Section 402 of the Clean Water Act, point source discharges into waters of the United States, including wetlands, are prohibited unless specifically permitted. Point source discharges of chemical, heavy metal, and biological wastes are regulated under Phase I, National Pollutant Discharge Elimination System (NPDES) permit. States can assume the program; the US EPA oversees assumed programs. Under the initial NPDES Phase 1 program, separate municipal storm sewer systems (MS4s) serving 100,000 or more people, and operators of construction activities disturbing five or more acres, must obtain an NPDES stormwater permit (USEPA 2001d). The NPDES Phase 2 program was finalized in 1999, and is scheduled for full implementation by 2003. The new requirements were established to protect water resources from stormwater runoff in regulated MS4s serving populations less than 100,000 and construction sites that disturb from 1 to 5 acres (USEPA 2001d).

Under the Clean Water Act, National Pollutant Discharge Elimination System (NPDES) permits may be issued by EPA or any State authorized by EPA to implement the NPDES program. Currently, 43 States are authorized to administer the base NPDES program. The base program includes the federal requirements applicable for animal feeding operations (AFOs) and confined animal feeding operations (CAFOs). To become an authorized NPDES State, the requirements imposed under a State's NPDES program must at a minimum be as stringent as the requirements imposed under the federal NPDES program. The States, however, may impose requirements that are broader in scope or more stringent than the requirements imposed under the federal NPDES program. In States not authorized to implement the NPDES program, the appropriate EPA Regional office is responsible for implementing the NPDES program.

Ongoing activities

An established silvicultural operation is any operation that has as its primary purpose the production, harvesting and reproduction of forest crops. If at any time it becomes apparent that harvesting will not be followed by continued regeneration of forest crops on the wetland, the operation will cease to be considered as ongoing silviculture operation and discharges of dredged and fill material associated with the harvesting will become regulated (COE, Vicksburg District, April 1991). On-going activities are events which are included in a management plan for a property and are currently being performed on that property. They are activities which are part of a conventional rotational cycle for that property. An operation ceases to be on-going when the area on which it was conducted has been converted to another use or has lain idle for so long that hydrological modifications are necessary to resume operations (COE RGL 90-7).

Ordinary high water mark

The landward regulatory limit for non-tidal waters (in the absence of adjacent wetlands). The ordinary high water mark is the line on the shores established by the fluctuations of water and indicated by physical characteristics such as:

a clear natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the waterbody.

Permit

Written authorization issued by an approved State to implement the requirement of Part 233, or by the Corps under 33 CFR Parts 320-330. When used to these regulations, "permit" includes "general permit" as well as "individual permit".

Person

An individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Plowing

All forms of primary tillage, including moldboard, chisel, or wide-blade plowing, discing, harrowing and similar physical means utilized on farm, forest or ranch land for the breaking up, cutting, turning over, or stirring of soil to prepare it for the planting of crops. The term does not include the redistribution of soil, rock, sand, or other surficial materials in a manner which changes any area of the waters of the United States to dry land.

Plowing for the purpose of producing food, fiber, and forest products and meeting the definition in section 323.4 will never involve a discharge of dredged or fill material. Such plowing is not subject to any of the provisions of Section 404(f) exemption limitations. Section 404(f) is applicable to those activities that do involve a discharge but are statutorily exempted from the need to obtain a 404 permit. Not all activities involving the use of a plow, disc, or similar equipment will satisfy the definition of plowing. For example, using a plow to dry the surface of a peat bog to facilitate mining is not plowing since it is not for the purpose of producing food, fiber or forest products. Also, the use of a plow to divert a braided stream feeding a wetland is not plowing because the purpose is to change a water of the United States to dry land. Thus, these activities are regulated under Section 404 if they occur in a water of the United States.
(Compare to deep-ripping)

(COE Regulatory Guidance Letter (RGL) 86-1, Plowing). Mechanized landclearing activities generally are regulated under Section 404 because they result in the redeposition of dredged material.[Regulatory Guidance Letter (RGL) 90-5]

Point Source

The term “point source” means any discernible, confined, and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or floating craft, from which pollutants are or may be discharged. This term does not include agricultural storm water discharges and return flows from irrigated agriculture.

Section 502, 33 U.S.C. 1362 and the implementing regs, 40 CFR Part 232, define discharge of pollutants to include the discharge of dredged or fill material from a point source. Point sources include backhoes and similar conveyances. (*Avoyelles Sportsman League v. Marsh*)

Silvicultural point source pollution

Any discernable, confined and discrete conveyance related to rock rushing, gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, surface drainage, or road construction and maintenance from which there is natural runoff. However, some of these activities (such as stream crossing for roads) may involve point source discharges of dredged or fill material which may require a CWA Section 404 permit. (40 CFR 121: NPDES Permit Regulations, Part 122.27).

- *Rock crushing
- *Gravel washing
- *Log sorting
- *Log storage facilities

Pollutant

“dredged spoil, solid waste,...sewage, garbage, munitions, chemical wastes, biological wastes,...heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste. (Section 502, 33 U.S.C. 1362)

Pollution

The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water. (Section 502, 33 U.S.C. 1362)

Prior Converted Cropland (PC)

Wetlands that were drained, dredged, filled, leveled, or otherwise manipulated before December 23, 1985, for the purpose of, or to have the effect of, making the production of an agricultural commodity possible, and that no longer meet the definition of the term "wetlands" contained in section 1201(a) of the Food Security Act of 1985. Agricultural

production on these areas is not affected by wetlands determinations unless the area is abandoned. Removal of woody vegetation alone is not sufficient to meet the definition of prior converted cropland (COE RGL 90-7). Hydrologic criteria (FSA Manual) to qualify as wetlands are either 7 days of inundation or 14 days of saturation. Some PCs meet wetland inundation criteria and would revert to wetlands if abandoned. In addition, some PCs are valuable wildlife habitat. Prior converted croplands can not apply to non-agricultural lands.

Converted wetland meets all of the following criteria:

was wetlands, FW, or FWP under natural conditions, but after December 23, 1985 has been drained, dredged, filled, leveled, or otherwise manipulated, including any activity that results in impairing or reducing the flow, circulation, or reach of water, and/or woody vegetation, including stems and stumps, was removed and hydrologic criteria:

(Ii) Inundation was less than 15 consecutive days during the growing season or 10 percent of the growing season, whichever is less, in most years (50 percent chance or more), and

(Ii) If a pothole, playa or pocosin, ponding was less than 7 consecutive days during the growing season in most years (50 percent chance or more) and saturation was less than 14 consecutive days during the growing season most years (50 percent chance or more).

Recapture Provision

Section 404(f)(2) of the Clean Water Act which provides:

Any discharge of dredged or fill material into the navigable waters incidental to any activity having as its purpose bringing an area of the navigable waters, into a use to which it was not previously subject, where the flow or circulation of navigable waters may be impaired or the reach of such waters be reduced, shall be required to have a permit under this Section.

In order to conclude that a given discharge activity is exempt from regulation, its must be demonstrated that a discharge falls within Section 404(f)(1), and also that it is not recaptured under Section 404(f)(2).

Regional General Permit Section 404

A type of permit issued by Corps Division or District Engineers on a regional basis (in accordance with 33 CFR part 325) for any specifically defined category (ex. mechanized landclearing, ditching, channelization, other excavation) of activities involving discharges of dredged or fill material for activities which are similar in nature, and will cause only minimal adverse environmental effects when performed separately, and will have only a minimal cumulative adverse effect on the environment.

Regulatory Guidance Letter

Regulatory Guidance Letters (RGLs) are used by the Corps of Engineers as a means to transmit guidance on the permit program (33 CFR 320-330) to its division and district engineers. The Corps of Engineers publishes RGLs in the Federal Register upon issuance as a means of informing the public of Corps guidance.

Selected RGLs related to Section 404 of the Clean Water Act include:

- 95-01 Guidance on Individual Permit Flexibility for Small Landowners
- 94-01 Extension of RGL 90-06 Expiration of Geographic Jurisdictional
- 93-01 Provisional Permits
- 93-02 Guidance on Flexibility of the 404(b)(1) Guidelines and Mitigation Banking
- 92-01 Federal Agencies Roles and Responsibilities
- 92-04 Section 401 Water Quality Certification and Coastal Zone Management Act Conditions for Nationwide Permits
- 92-05 Alternatives Analysis Under the Section 404(b)(1) Guidelines for Projects Subject to Modification Under the Clean Water Act
- 91-01 Extension of Time for Individual Permit Authorization
- 90-05 Landclearing Activities Subject to Section 404 Jurisdiction
- 90-07 Clarification of the Phrase "Normal Circumstances" as it Pertains to Cropped Wetlands
- 88-03 Wetland Jurisdictional Determinations
- 88-06 Nationwide Permit Guidance
- 87-02 Use of the Word "Significant" in Permit Documentation
- 85-04 Agricultural Conversion: Avoyelles (Avoyelles Sportsmen's League v. Marsh)
715 F.2d 897 (5th Cir. 1983)

Riparian areas

Vegetated ecosystems along a waterbody through which energy, materials, and water pass. Riparian areas characteristically have a high water table and are subject to periodic flooding and influence from the adjacent waterbody. These systems encompass wetlands, or some combination of these two land forms. They will not in all cases have all of the characteristics necessary for them to be classified as wetlands.

Areas of land that occur along streams, channels, rivers, and other water bodies. These areas are normally distinctly different from the surrounding lands because of unique soil and vegetation characteristics, may be identified by distinctive vegetative communities which are reflective of soil conditions normally wetter than adjacent soils, and generally provide a corridor for the movement of wildlife. (Wetland Reserve Final Rules, 7 CFR 620, 1467)

Road BMPs or "Baseline provisions" (53 FR 20773, June 6, 1988)

Conditions of forest road construction or maintenance to be met in order to be exempt from section 404 permit requirements:

- (i) Permanent roads, temporary access roads and skid trails in waters of the U.S. shall be held to the minimum feasible number, width, and total length consistent with the purpose of specific silvicultural operations, and local topographic and climatic conditions;
- (ii) All roads, temporary or permanent, shall be located sufficiently far from streams or other water bodies (except for portions of such roads which must cross water bodies) to minimize discharges of dredged or fill material into waters of the U.S.;
- (iii) The road fill shall be bridged, culverted, or otherwise designed to prevent the restriction of expected flood flows;
- (iv) The fill shall be properly stabilized and maintained to prevent erosion during and following construction;
- (v) Discharges of dredged or fill material into waters of the U.S. to construct a road fill shall be made in a manner that minimizes the encroachment of trucks, tractors, bulldozers, or other heavy equipment within the waters of the U.S. (including adjacent wetlands) that lie outside the lateral boundaries of the fill itself;
- (vi) In designing, constructing, and maintaining roads, vegetative disturbance in the waters of the U.S. shall be kept to a minimum;
- (vii) The design, construction and maintenance of the road crossing shall not disrupt the migration of other movement of those species of aquatic life inhabiting the water body;
- (viii) Borrow material shall be taken from upland sources whenever feasible;
- (ix) The discharge shall not take, or jeopardize the continued existence of, a threatened or endangered species as defined under the Endangered Species Act, or adversely modify or destroy the critical habitat of such species;
- (x) Discharges of breeding and nesting areas for migratory waterfowl, spawning areas, and wetlands shall be avoided if practical alternatives exist;
- (xi) The discharge shall not be located in the proximity of a public water supply intake;
- (xii) The discharge shall not occur in areas of concentrated shellfish production;
- (xiii) The discharge shall not occur in a component of the National Wild and Scenic River System;
- (xiv) The discharge of material shall consist of suitable material free from toxic pollutants in toxic amounts; and
- (xv) All temporary fills shall be removed in their entirety and the area restored to its original elevation.

Secondary Effects

Effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects shall be considered prior to the time final section 404 action is taken by permitting authorities. Examples of secondary effects on an aquatic ecosystem are fluctuating water levels in an impoundment and downstream associated with the operation of a dam, septic tank leaching and surface runoff from residential or commercial developments on fill and leachate and runoff from a sanitary landfill located in waters of the U.S. [40 CFR 230.11(h)]

Silvicultural exemption

Narrowly defined to apply to activities associated with managing or producing wood products. If the activity benefits tree growth, it is exempt from the 404 permitting process. If the objective of an activity is primarily to produce other benefits, such as creating wildlife openings, then the exemption does not apply. Ongoing management to produce wood products and benefit wildlife qualifies, as demonstrated in a forest management plan, qualifies for the exemption. The recapture clause of 404 will apply if the activity alters hydrology past the point that EPA feels it has altered the reach, flow, or circulation of waters of the U.S. (see Recapture provision). Section 404 exempts ongoing and normal silvicultural activities from the dredge and fill permit process under certain provisions such as: An established silvicultural operation that has as its primary purpose the production, harvesting and reproduction of forest crops.

Construction and maintenance of forest roads...where such roads are constructed and maintained in accordance with best management practices (BMPs).

Ditching for the purpose of removing surface water as a result of beaver activity or flood-deposited sediment when it is apparent that changes in the hydrologic regime have occurred. If, however woody vegetation has become established (after initial tree kill from ponding) with such hydrophytic species as green ash, willow, or buttonbush, the exemption does not apply.

The 1988 Rules and Regulations modified the wording. It repeated the requirement for BMPs on road construction and maintenance, but modified the sentence about the 15 provisions: "The BMPs which must be applied to satisfy this provision include the following baseline provisions" : The same general provisions are listed. EPA guidance is needed to clarify two points: 1. The BMPs required for roads are the State approved BMPs. 2. The 15 items are provisions on the exemption and are not BMPs in themselves.

State Regulated Waters

Those waters of the United States in which the Corps suspends the issuance of section 404 permits upon approval of a State's section 404 permit program by the Administrator of EPA under 404(h). The program cannot be transferred for those waters which are presently used, or are susceptible to use in their natural condition or by reasonable improvement by means to transport interstate or foreign commerce shoreward to their ordinary high water mark, including all waters which are subject to the ebb and flow of the tide shoreward to the high tide line, including wetlands adjacent thereto. All other waters of the United States in a State with an approved program shall be under jurisdiction of the State program, and shall be identified in the program description as required by Part 233.

Streamside management area (SMA)

A designated area that consists of the stream itself and an adjacent area of varying width where management practices that might affect water quality, fish, or other aquatic resources are modified. The SMA is not an area of exclusion, but an area of closely managed activity. It is an area that acts as an effective filter and absorptive zone for sediments; maintains shade; protects riparian and terrestrial riparian habitat; protects channels and streambanks; and promotes floodplain stability.

Swampbuster

The 1996 farm bill makes several policy changes to Swampbuster to give farmers more flexibility in complying with wetland conservation requirements:

- Expands candidate mitigation areas to allow individuals to work with producers, conservation districts and others to select the best wetland mitigation sites.

- Provides more options for mitigation, including restoration, enhancement, or creation as long as wetland functions are maintained.

- Encourages use of "minimal effect" determinations to allow NRCS and state technical committees to identify and implement minimal effect practices.

- Stipulates that wetland conservation practices authorized by Section 404 permits will be accepted for farm bill purposes if Memorandum of Agreement with COE, EPA, FWS, Natural Resources Conservation Service

- Revised concept of "abandonment" to ensure that as long as land is used for agriculture, a certified Prior Converted cropland designation remains in effect. When done under an approved plan, landowners with Farm Wetlands (FW) and Farmed Wetlands Pasture (FWP) may allow an area to

revert to wetland status, and convert it back to an FW or FWP for agricultural purposes without violating the Swampbuster provision.

Requires wetland determinations to be certified by NRCS. Previous wetlands determinations will be certified to verify their accuracy. A certified wetland determination will remain in effect as long as the land is used for agricultural purposes or until the owner or operator requests a review from the Secretary.

Provides the Secretary with discretion to waive penalties for ineligibility and to grant time to restore converted wetlands

Provides the Secretary with authority to identify the individual producers which programs are affected by Swampbuster violations and how much the penalty is.

Establishes a pilot program for wetland mitigation banking in order to allow

USDA to assess how well mitigation banking works for agriculture.

Total Maximum Daily Load (TMDL)

Update:

Garcia Case (US District Court for the Northern District of California): For the first time, a federal judge has upheld the EPA's longstanding interpretation and practice that the EPA and states have the authority to identify which U.S. waterways are polluted by runoff from urban areas, agriculture and timber harvesting -- "nonpoint sources" of pollution - and to identify the maximum amount of pollutants that may enter these waterways through the TMDL program. The American Farm Bureau Federation and other agriculture and timber groups filed suit, claiming that the EPA and the states should calculate TMDLs only for pollutants that are discharged from pipes, or point sources. The court rejected this argument, holding that the Clean Water Act is designed to provide a comprehensive solution to the nation's water quality problems, "without regard to the sources of pollution."

A TMDL is the sum of 1) Waste Load Allocation (WLA) or portion of the receiving water's loading capacity that is allocated to an existing or future point source discharge, (2) Load Allocation (LA) or portion of the receiving water's loading capacity that is attributable to either existing or future nonpoint source pollution or to natural background sources, and 3) a Margin of Safety (MS) or that portion of a receiving water's loading capacity that is allocated to uncertainty. The relationship is represented by $TMDL = WLA + LA + MS$ The process is basically as follows: States identify specific waters where water quality problems exist or are expected; States set priorities; States allocate pollutant loadings among point and nonpoint sources; and EPA approves State actions or acts in lieu of the State if necessary. Point and nonpoint sources then reduce

pollutants to achieve loadings established by the TMDL through a wide variety of Federal, State, Tribal, and local authorities, programs, and initiatives.

States have primary responsibility for developing lists and TMDLs under Section 303(d) of the Clean Water Act. Section 303(d)(1)(A) and the implementing regulations (at 40 CFR 130.7(b)) provide States with latitude to determine their own priorities for developing and implementing TMDLs. In particular, the flexibility to States offered by the priority ranking process of section 303(d)(1)(A) is a good opportunity for incorporating rotating basin or other watershed approaches into the TMDL process. Also refer to Section 303 under Clean Water Act heading.

Tulloch or "Excavation" Rule (and update)

(33 CFR 323,328; 40 CFR 110 et. al) Clean Water Act Regulatory Program - Final Rule A 1993 regulation which expands activities in wetlands that require section 404 permit and exempts prior converted cropland from permitting. Named after an 1800 acre development in New Hanover Co., NC in which much of the 700 acres wetlands on site were land cleared. The Tulloch Rule modifies the definition of "discharge of dredged material" and codifies policy that prior converted croplands are not waters of the United States. The final rule also deletes the exclusion "plowing, cultivating, seeding and harvesting for the production of food, fiber and forest products" entirely from the definition of "discharge of dredged material".

Mechanized landclearing: Brushrakes, rootrakes, chunkrakes, disc harrows, root plows, rippers, bulldozer plows, and many types of shearing blades are characteristic of the type of equipment which operate by scraping the surface of the ground or push into the ground, then are moved through the soil, usually by bulldozers or loaders.

Windrowing: "If accomplished in a manner that would redeposit dredged material (for example, by pushing the fallen vegetation with a bulldozer or similar equipment), then a (404) permit would be required."

Activities at or above the soil/sediment line: "Activities that involved only the cutting or removing of vegetation above the ground (e. g. mowing, rotary cutting, or chainsawing) where the activity neither substantially disturbs the root systems nor involves mechanized pushing, dragging, or other similar activities that redeposit excavated soil material" is excluded from the definition of dredged material.

Ditching - Act of creating ditches (i.e. trenches or troughs) by excavating the earth.

Channelization - The modification made to, within, or adjacent to an existing stream channel, as well as the rerouting of a stream channel.

Degradation - Results when an activity has more than a de minimis effect on the area by causing an identifiable individual or cumulative adverse effect on any aquatic function.

De minimis - Refers to the degree of adverse environmental effects associated with discharges of dredged or fill material. In the final rule, de minimis refers to the degree of environmental effects associated with

mechanized landclearing, ditching, channelization and other excavation. The threshold of adverse effects for the de minimis exception is very low - there must not be any identifiable adverse individual or cumulative effect on any aquatic function. An identifiable adverse individual or cumulative effect on any aquatic function is sufficient to subject an activity to Section 404 jurisdiction.

Landclearing to convert a mixed age, mixed hardwood/pine swamp to a managed pine plantation would not likely qualify as a de minimis discharge and would not meet the definition of plowing or other exempted activities, and therefore would be regulated under the CWA. Conversely, landclearing as part of a harvest/replanting cycle within an established/ongoing pine plantation operation would likely qualify as a de minimis discharge (EPA Reg. IV Sec. 404(f) Special Matter Determination, Weyerhaeuser Co. - Parker Tract, Washington Co., NC).

"Certain discharges, such as those associated with normal farming, silviculture, and ranching activities, are not prohibited by or otherwise subject to regulation under Section 404. See 40 CFR 232.3 for discharges that do not require permits" (FR 58:163, Aug. 25, 1993, p.45037)

Tulloch Update (July 21, 1999 Federal Register)

Although the revised definition of "discharge of dredged material" published on August 25, 1993, was overturned by these recent court decisions, certain excavation activities are still regulated under Section 404 of the Clean Water Act and require a Corps permit. Excavation activities that result in redeposits of dredged material into waters of the United States other than incidental fallback require a Section 404 permit. All other excavation activities, if they result in the replacement of an aquatic area with dry land or changing the bottom elevation of a waterbody require a Section 404 permit, and may be authorized by NWP's if they comply with the terms and limits of the NWP's. Excavation activities that result only in discharges classified as "incidental fallback" do not require a Section 404 permit. We have retained the excavation language in the proposed new and modified NWP's and the definition of "loss of waters of the United States" to make it clear that some excavation activities still require a Section 404 permit, and if so, may be authorized by NWP's. A final rule was published in the May 10, 1999, issue of the Federal Register (64 FR 25119-25123) with revisions to the Clean Water Act regulatory definition of "discharge of dredged material." The revision clarifies the definition of "discharge of dredged material" by deleting language from the regulatory definition at 33 CFR Part 323.2(d) that was held by the Court to exceed the Clean Water Act statutory authority.

EPA Region 4 Summary: The American Mining Congress (AMC) et., al., successful lawsuit on the Tulloch rule and affirmation on appeal has led to another round of rulemaking to conform to the D.C. District's ruling again defining what is a "discharge of dredged material." The May 10, 1999, rulemaking omitted "any" as a modifier for the term "redeposit" and also removed the term "incidental fallback" from the definition of dredged material.

Consequently, EPA and the Corps continue to regulate some redeposits of dredge material on a case to case basis - sloppy practices associated with a build-up of fallback from the dredge bucket and sidecasting of dredged material. However, incidental fallback of dredged material - material falling from a bucket back into the same area from which it was extracted - is not regulated through Section 404 pursuant to the D.C. District Court's opinion.

For more information, see Region 4's fact sheet at <http://www.epa.gov/region04/oeapages/99press/072399a.htm> or the memorandum from Charles Fox titled ACTIONS to Address Wetlands and Stream Degradation as a Result of the National Mining Association (Tulloch) Court Decision@ (July 6, 1999).

August 10, 2000 EPA Update Tulloch Rule

The Agency announced on August 10 issuance of proposed revisions to the CWA Section 404 definition of "discharge of dredged material" (Tulloch rule). The proposed rule would establish a rebuttable presumption that because of the nature of the equipment and activities, mechanized landclearing, ditching, channelization, in-stream mining, or other mechanized excavation activity in waters of the United States produce more than incidental fallback and result in a regulable discharge of dredged material subject to environmental review under Section 404 of the Clean Water Act. The presumption of discharge could be rebutted by a case-by-case showing that the activity was designed and conducted so as to result only in incidental fallback. A fact sheet and manuscript copy of the signed proposal are available on the website at: <http://www.epa.gov/owow/wetlands/dredgedmat/dredmat.html>

Vegetated buffers (Vegetated filter strips)

Update: Vegetated buffers will normally be 25 to 50 feet wide on both sides of streams, but the district engineer can require wider vegetated buffers to address documented water quality concerns. A 25 to 50 foot wide vegetated buffer next to a stream provides important aquatic habitat functions and values, as well as substantial water quality benefits. Source: [Federal Register: March 9, 2000 (Volume 65, Number 47)]

Strips of vegetation separating a waterbody from a land use that could act as a nonpoint pollution source. Created areas of vegetation designed to remove sediment and other pollutants from surface water runoff by filtration, deposition, infiltration, adsorption, absorption, decomposition, and volatilization. A vegetated filter strip is an area that maintains soil aeration as opposed to a wetland that, at times, exhibits anaerobic soil conditions. Vegetated buffers (or simply buffers) are variable in width and can range in function from a vegetated filter strip to a wetland or riparian area.

For the purposes of the Corps regulatory program, vegetated buffers are areas inhabited by woody or herbaceous plants that are adjacent to streams, lakes, ponds, wetlands, or other waters of the United States. Vegetated buffers can be either wetlands or uplands.

The Corps recommends conservation easements, deed restrictions, or similar restrictions should be imposed on the vegetated buffer to ensure that the buffer is maintained.

Water Quality Standard

[40 CFR 131.3] A water quality standard defines the water quality goals of a water body, or portion of a waterbody by designating the beneficial use or uses to be made of the water and by setting criteria necessary to protect the uses. Water quality standards should provide water quality for the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water and take into consideration their use and value of public water supplies. Such standards establish water quality goals of a specific water body and serve as the regulatory basis for the establishment of water-quality based treatment controls and strategies beyond the technology-based treatment required by sections 301(b) and 306 of the Clean Water Act.

Waters of the United States

Under current Section 404 definition, "Waters of the United States" include traditionally navigable waters, interstate waters and wetlands, all impoundments of jurisdictional waters, all tributaries of waters of the United States, the territorial seas, and wetland adjacent to any of these waters (other than waters that are themselves wetlands).

- (1) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all water which are subject to the ebb and flow of the tide.
- (2) All interstate waters including interstate wetlands.
- (3) All other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which would or could affect interstate or foreign commerce including any such waters:
 - (I) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
- (4) All impoundments of waters otherwise defined as waters of the United States under this definition;
- (5) Tributaries of waters identified in paragraphs (g)(1)-(4) of this section;
- (6) The territorial sea; and
- (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (q)(1)-(6) of this section. [33 CFR 328.3(a), 40 CFR 230.3(s), 232.2]

The EPA and Corps regulations also include isolated waters, including wetlands, within the definition of "waters of the United States," provided that they have or could have a connection, or nexus, with interstate commerce.

Clarification of waters of the United States [40 CFR 328.3(a)(3)] includes the following waters:

- a. Which are or would be used as habitat by birds protected by the Migratory Bird Treaties; or
- b. Which are or would be used as habitat by other migratory birds which cross state lines; or
- c. Which are or would be used as habitat for endangered species; or
- d. Used to irrigate crops sold in interstate commerce. EPA also has the right to determine on a case-by-case basis if any of the following waters are "waters of the United States.:

- (a) Non-tidal drainage and irrigation ditches excavated on dry land.

- (b) Artificially irrigated areas which would revert to upland if irrigation ceased.

- (c) Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which used exclusively for such purposes as stock watering, irrigation, settling basin, or rice growing.

- (d) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.

- (e) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States. [33 CFR 328.3 (a)]

Waters of the United States do not include prior converted croplands. Notwithstanding the determination of an area's status as prior converted cropland by any a federal agency other than EPA, for purposes on the Clean Water Act, the final authority regarding CWA jurisdiction remains with EPA.

Wetlands

- (1) Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a

prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. [40 CFR 230.3(f)] (2) Lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface of the land and is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: A) at least periodically, the land supports predominantly hydrophytes; B) the substrate is predominantly undrained hydric soil; and C) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year (Cowardin, L.M., V.Carter, F.C. Golet, and E.T.LaRoe, 1979. Classification of Wetlands and Deepwater Habitats of the United States. US Fish & Wildlife Service, FWS/OBS-79/31.

Wetland Conservation (Swampbuster) provision

A provision in the Food, Agriculture, Conservation and Trade Act of 1990 which withholds Federal farm program benefits to any person who: plants an agricultural commodity on a converted wetland that was converted by drainage, dredging, leveling or any other means after December 23, 1985; or converts a wetland for the purpose of or to make agricultural commodity production possible after November 28, 1990.

Wetland delineation

Any determination of the presence of wetlands and their boundaries. Based on consideration of soils, vegetation and hydrology; positive indicators that hydric soils, hydrophytic vegetation and wetlands hydrology would be present are necessary for an area to be considered a jurisdictional wetlands. (EPA Reg.IV Sec. 404(f) Special Matter Determination, Weyerhaeuser Co. - Parker Tract, Washington Co., NC)

Wetland hydrology

Encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. Areas with evident characteristics of wetland hydrology are those where the presence of water has an over-riding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions, respectively (US Army Corps of Engineers. Wetlands Delineation Manual. 1987. Vicksburg, MS).